

Feb. 21.

An
Inaugural Dissertation

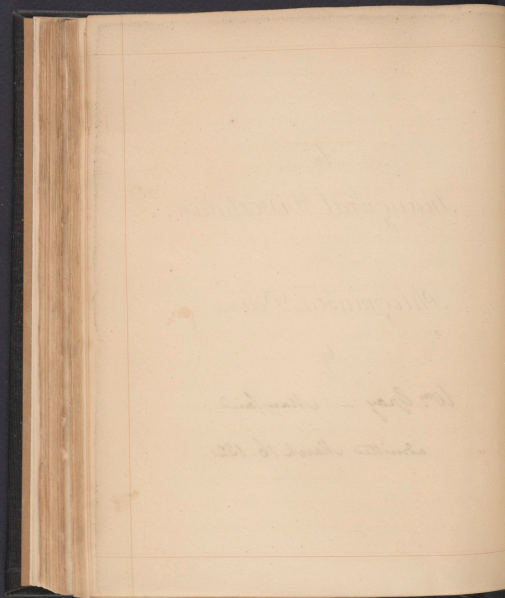
on

Phlegmasia Dolens.

by —

W^m Gray — Maryland

admitted March 16. 1821



Phlegmasia Dolens.

This disease is one of a very interesting nature: And in the time of Hippocrates the great Father of Medicine until the present period, it has commanded the attention and talents of several eminent men of the profession. It must have been coeval with the complaints incident to the puerperal state, though it appears to have been only slightly noticed by the Ancients. I believe it is a disease of very rare occurrence. Mr. White of Manchester, in his Inquiry, &c. &c. says — That out of 1897 women delivered at the Westminster general Dispensary, five only were attacked with it: and of 8000 women delivered at the Manchester Lying-in Hospital and their own houses, no more than four were affected by this complaint; and I believe it is equally rare in America.

Dr. Dewees (if I am not mistaken) stated before the Medical Society, that he had delivered upwards of 8000 women, and but seven or eight cases of this disease had occurred to him.

Memorandum

The purpose of this memorandum is to provide a summary of the information received from the various sources mentioned in the preceding report. It is intended to serve as a reference for the various departments concerned and to provide a basis for the further investigation and action required.

The information received from the various sources is as follows:

1. The information received from the various sources is as follows:

2. The information received from the various sources is as follows:

3. The information received from the various sources is as follows:

4. The information received from the various sources is as follows:

5. The information received from the various sources is as follows:

6. The information received from the various sources is as follows:

7. The information received from the various sources is as follows:

8. The information received from the various sources is as follows:

9. The information received from the various sources is as follows:

10. The information received from the various sources is as follows:

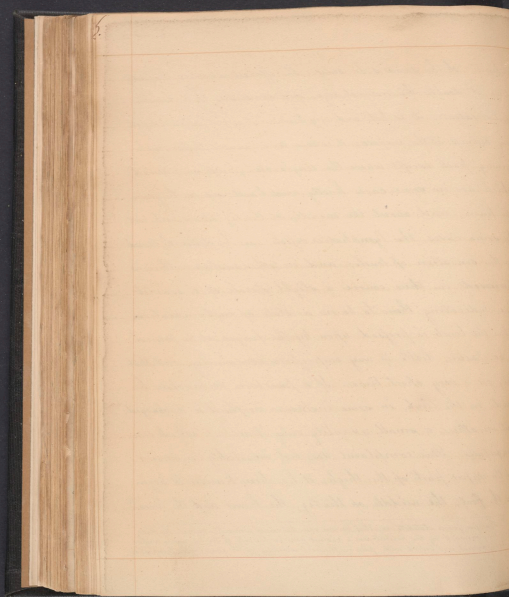
General History.

Phlegmasia Dolens principally affects women in the puerperal state; but to this general rule there are a few exceptions, cases of the disease having appeared in the male; also in the female independently of the parturient state. It is very irregular as to the time of its appearance; sometimes commencing in twenty-four or forty-eight hours after delivery, and at other times not until a month, or even six weeks have elapsed; but in general the attack takes place from the tenth to the sixteenth day after parturition.

It usually comes on with a pain, uneasiness, or stiffness in the Lumbar, Hypogastric, or Inguinal regions, accompanied by a considerable degree of fever, which is sometimes preceded by cold sensations, and vice versa. In the course of a few hours after the attack, the limb swells, becomes very tense, extremely painful, and very tender to the touch; in fact, so very tender is the part, that with great difficulty the patient permits you to touch the limb. The external appearance is pulsationally white and of a glossy shining aspect. The swelling and tumefaction extends from the groin to the foot & labium

puddendi of the same side only. The affected extremity frequently arrives at double the natural size, and sometimes to a much greater extent; it is hot and very tender, but is not attended with any redness of the surface; it is even and equable to the touch in every part except where the conglobate glands are situated, which are in some cases knotty and hard, as in the groin, the ham, and about the middle of the leg at its back part. In some cases, the lymphatic vessels can be distinctly traced by the sensation of touch; and in other instances there is perceived in their course a slight streak of a scarlet hue, indicating them to be in a state of inflammation. When the limb is pressed upon by the finger it is found to be elastic, little if any impression remaining, and that only for a very short time. If a puncture or incision be made in the limb, in some instances no fluid is discharged; but in others a small quantity only issues out which soon coagulates. This complaint does not invariably commence at the upper part of the thigh; it has been known to begin in the foot, the middle of the leg, the ham and the knee.*

* Professor Jones stated to me, that in one case that came under his notice, the first symptom observed by the patient was a violent pain in the calf of the leg; and in another case, the patient was seized with pain in the heel extending up the course of the lymphatics.



It is of little importance to the patient in which of these situations it fixes its grasp, for in a very short time it is diffused throughout the extremity.

The most frequent termination of the disease is in resolution, or a removal of the effused fluid by the absorbents; it sometimes (though I believe very rarely) terminates in suppuration. Whenever the latter result occurs, it is either from neglect or improper treatment; at least in a majority of cases.

Phlegmaria Dolens never attacks both limbs at one time; but it is frequently translated from the one to the other. Women in all situations, and under every circumstance, are liable to an attack of the disease in question: The rich, the poor, the delicate and the robust, those who give suck, and those who do not.* It does not appear to depend upon the state of the lochial discharge, nor upon the habits of the individual, as regards exercise and diet: it occurs in the country as well as city; to those who had every possible attendance, and to those who had none at all; after their first, or any other labour, and whether the labour be natural, preternatural, or complex.

* Out of 15 cases related by Mr. White, eight of the patients did not give suck.

Remote Cause.

I am induced to believe, from a variety of circumstances connected with the nature and peculiarity of this disease, that the state of pregnancy and parturition predisposes the woman in some manner to an attack of this disorder. But if we place any reliance on the judgment and opinion of Dr. Robert Thomas (and I see no reason to doubt either), we must be convinced of the reality of its appearance in the female independently of every state connected with parturition.*

And if we consult Dr. Keen's Medical Histories and Reflections, vol. iii. we shall find cases related where it occurred in the male subject.

Mr. White, in his Treatise on this complaint, observes, (page 48) "That it may be owing to an inflammation brought on the trunk or trunks of the lymphatics, or on the glands, by the pressure of the child's head upon them during the process of labour; this may produce an adhesion of the cells of these glands, and make them impervious, and cause a stagnation

* Practice of Physick, page 757

10.

of lymph in the extremity, and thereby produce the disease in question. That the disease is dependant upon an inflammation of the glands and lymphatic vessels, I fully believe; but to the aforesaid manner of accounting for this inflammation, I will offer some objections.

1. That nearly the same kind of pressure exists in a state of extero-gestation for some time before delivery, as at the time of labour.

2. That Phlegmasia Dolens does occur in women that have had the most natural and easy labour, where it is presumed no such violent pressure does take place.

3. That independently of every state connected with parturition the disease has been known to exist.

After making another conjecture, Mr. White, [page 89] asks the following question. "Is it not more probable that this disease is owing to the child's head pressing the lymphatic vessel or vessels which arise from one of the lower extremities, against the brim of the pelvis during a labour pain, so as to stop the progress of the lymph, and the valves preventing a regurgitation, the vessel at last bursts and sheds its contents,

though its coats should be allowed to be stronger than those of the blood vessels?" We should not hesitate a moment, I think, in answering this question in the negative; for,

1. If a rupture of the lymphatics did take place in the progress of parturition, ought not the disease in every instance to manifest itself immediately after delivery, or what becomes of the extravasated lymph during the space of ten, fifteen, or even thirty days after the accident?

2. In cases that have required the extirpation of the Axillary Glands, where the certainty of the lymphatic vessels having been divided is self-evident from the very nature of the operation; but still this disease is never the consequence!

3. In the application of the Tourniquet upon the extremities, a rupture of the lymphatics has never been known as a consequence, or even suspected.

Dr. Hull, (page 198) observes, "That the predisposing cause appear to be an increased irritability and disposition to inflammation, which prevails during pregnancy, and in a still higher degree for some time after parturition."—Among the exciting causes, he enumerates the following:—

"Violent exertions of the muscles inserted into the pelvis, or thighs; contusions of the cellular membrane connected with these muscles during a tedious labour; the application of cold and moisture; suppression or diminution of the lochia and of the secretion of milk; food taken in too large quantities or of too stimulating a quality, especially when the patient does not give suck."

When we come to consider that the disease occurs in all conditions of life and peculiarity of location, and under every circumstance regarding parturition; in the city as well as in the country, on the mountain and in the valley, whether the lochia be moderate or profuse, and whether the woman give suck or not: I say, when we take into view these circumstances, does it not evidently appear that few of the preceding observations are worthy of much attention?—

Proximate Cause.

This disease has been attributed to suppression of the lochia, to deposits or redundancies of milk, and to cold.

Mauriceau, a French writer, imagined it to be a reflux of the lochia in the part.

The first of these is the fact that the
 number of the population of the United States
 has increased from 3,929,214 in 1790 to 31,443,321
 in 1880. This increase has been the result of
 a number of causes, the most important of which
 are the following: First, the increase in the
 number of the population of the United States
 has been the result of a number of causes, the
 most important of which are the following: First,
 the increase in the number of the population of
 the United States has been the result of a number
 of causes, the most important of which are the
 following: First, the increase in the number of
 the population of the United States has been the
 result of a number of causes, the most important
 of which are the following: First, the increase in
 the number of the population of the United States
 has been the result of a number of causes, the
 most important of which are the following: First,

the increase in the number of the population of
 the United States has been the result of a number
 of causes, the most important of which are the
 following: First, the increase in the number of
 the population of the United States has been the
 result of a number of causes, the most important
 of which are the following: First, the increase in
 the number of the population of the United States
 has been the result of a number of causes, the
 most important of which are the following: First,

Pagor attributed it to a defect de lat in the extremity.

I should like to be informed what peculiar attraction the lower extremities have for these fluids, and why not a reflux of the lochia and a deposit of milt equally occur in other parts?

Mr. White says, That the proximate cause of this disease is an obstruction, detention and accumulation of lymph in the part, and that this obstruction is occasioned by some accident happening during labour, or some state peculiar to child-bed, as this disorder only happens to lying-in women.

I have already stated that the disease is not confined to lying-in women alone; but that it occurs in the female independently of parturition; and, upon the authority of Ferris and others, even in the male subject.

Mr. White's theory depends, 1. Upon rupture of the lymphatics
2. Upon the adhesion of these vessels lessening or completely closing their caliber, and thus forming the obstruction. — He says, (page 51)
"When the orifice made in the vessels is healed, and the diameter of that tube is contracted, or perhaps totally closed by the cicatrix, &c. &c." There is one thing, in this supposition that I cannot comprehend; how it would be possible for a vessel to heal while subject

21/2

to the same power that forced it asunder? I here allude to the power or force of circulation.

Dr Hall, in his Essay on this disease, says, (page 124) "That the proximate cause is an inflammation of the muscles, cellular membrane, and inferior surface of the Gutta, and in some cases perhaps the inflammation may be communicated from these parts to the large blood vessels, nerves, and the lymphatic vessels and glands imbedded in them."

Much credit is due the Doctor for his ingenious estimate of the parts affected:— if he had but comprehended in this calculation the periosteum, the bones and their appendages, he would certainly have hit upon the seat of the disease. — He confounds a number of parts whose actions are entirely distinct. We know that the Gutta Vera is a very vascular membrane, and that its vessels in the healthy state admit red globules: but, according to this theory, they must be rejected when it is in a state of inflammation; a circumstance entirely opposite to general observation, and contrary to the best received doctrine upon inflammation.*

* Mr John Hunter's allude to

Mr. Foye, of Gloucester, has considered the proximate cause of the swelling to be seated in the lymphatic glands: "I will not contend," says he, "that it must be so universally, because there is a probability, that the original seat of obstruction and inflammation may, in some instances, be in the principal trunks of the absorbents; but the phenomena consequent to the inflammation of the trunks will be the same, whether it begin immediately in the trunks themselves, or primarily in the glands through which they pass."

Dr. Denman is nearly of the same opinion with Mr. Foye. "He considers it as an affection of the whole glandular and lymphatic system of the extremity."

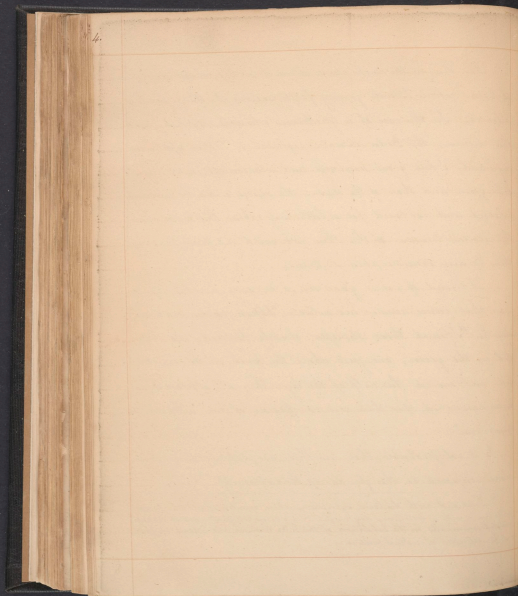
Dr. Ferriar, in his Medical History, &c. vol. iii. says, "That the proximate cause is an inflammatory affection of the absorbents of the limb; the tense swelling of the limb," he observes, "clearly marks the distinction between the class of vessels affected, and those of the sanguiferous system: the absorbents are rendered incapable of performing their functions, by the thickening of the vessels and the obstruction of the glands; but the arteries being in a sound state, the coagulants continue to pour out their fluid, which not being absorbed, must stagnate in the cellular membrane."

D^r. F., in the work above alluded to, has related a number of Cases, which I think go very far to sustain the theory he has adopted. In the case of a Gentleman who was attacked with this disease, the Doctor observes, (pages 341-2) "Upon applying my hand, I felt great hardness and enlargement in the glands of the groin and those of the ham: the vesicle could be felt much enlarged and hardened for a little way above the ham, but the extreme tension of the skin prevented me from tracing them to any considerable distance."

A friend of mine gave me a cursory account of a case that came under his notice: "Upon examination," says he, "I found three abscesses already formed; one situated in the groin, one just above the knee on the inner-side, and one in the calf of the leg: they all appeared to be circumscribed, for there was no effusion of pus in the cellular membrane."

Is it not probable that, in this case, suppuration was alone confined to the glands of the extremity?²

² Combined with the local symptoms above mentioned, there was Ectec Fever, with a distressing dry cough. - The successful treatment of this case consisted principally in the exhibition of the Sella Martima and Calomel combined, and the application of emollient fomentations.



Having examined in a concise manner the most prominent theories upon this disorder, I shall now conclude by saying, that I believe Phlegmasia Dolens to be an inflammatory disease, affecting particularly the lymphatic system of the extremity. To this effect I have quoted the opinions of three very respectable Authors, viz. Trousseau, Donnan, and Verriar; and I am happy to leave it in my power to add to these the name of Professor James, who has had no little experience in the complaint.

Treatment.

In giving the treatment of this disease, I shall divide it into two stages. And first, The inflammatory stage. In this stage we find the arterial system above its natural or healthy standard; pulse full and frequent; (except in those cases where the patient has been reduced by hæmorrhage or excessive bleeding); the limb is tense, painful, tender to the touch and very much swollen.

The indications are,

- 1.st To lessen arterial action, and relieve the pain.
- 2.nd To reduce the swelling, or promote absorption.

To fulfil the first indication, we must have recourse to

Bloodletting. This operation must be regulated, as to its extent, by the discretion and sound judgment of the attending Physician. It may perhaps be necessary to bleed several times, extracting, viij , Xviij or xx ℥ . at a time; but this will depend in a great measure upon the constitution of the patient.

Co-operating with Dr. purging will be next in order. Active cathartics of the Mercurial kind should be freely administered in the first onset of the disease: afterwards the bowels may be kept gently open by one of the neutral salts, and I would prefer the Sulphate of Magnesia.

After these depletory means have been used, we may then resort to Opium, if necessary, to relieve the pain; and we should enjoin perfect rest and a horizontal posture.

To meet the second indication in some degree, Diaphoretics may be resorted to. They determine the blood to the surface, and thereby produce a copious flow of sweat; thus detracting from the circulating mass: they equalize excitement, regulate arterial action, counteract irritation both general and local, relieve the pain and tension, and in some measure tend to reduce the swelling. Some one of the Antiseptic preparations

are generally used. Every advantage may be derived from the Tart. Antim. of Potassa, or as it is generally called Tart. Emst. This may be given either in the Watery Solution, in the form of Vinum Antimonialis, or in combination with Nitras Potassa, common Nitre, in the proportion of gr. x. of the Nitre and of $\frac{1}{2}$ or $\frac{1}{4}$ of the Tart. Emst. repeated every 4, 6 or 8 hours.

The diet should be low, consisting of farinaceous articles, such as Rice, Tapioca, Panada, &c. The Vegetable Soup recommended by Professor Physick may be used; it will be found both palatable and agreeable to the patient.

To complete the second indication certain local applications must be attended to.

Blisters applied to the upper and inner part of the thigh, and to the calf of the leg, will be of great benefit and should seldom be neglected.

The local Vapour or Vinegar Bath is a remedy of great utility. It tranquillizes the system by relieving the pain and irritation: it produces an effusion from the capillary vessels, and thus diminishes the swelling. — This bath is made by plunging hot bricks into vinegar, then wrapping

them in a cloth and placing them under or to each side of the extremity. The process should be repeated three or four times a day.

Local bloodletting, by leeches, is highly recommended by Dr. Ferris, but I believe it is rarely had recourse to in this country.

If the disease should still persist in obstinacy, after the above means have been tried, we must resort to Mercury, given so as to bring on a ptyalism: this will seldom fail of producing relief.

Dr. Hosack of New York strongly recommends the exhibition of Squills and Calomel combined, which he thinks has often produced the best effects.

I come now to the Oedematous stage. At this period of the disease, we consider that arterial action has been subdued, and little of the complaint remains except the swelling of the limb. The extremity now puts on a flabby appearance, and when pressed upon by the finger the impression remains for some time. The treatment consists chiefly of local applications; but under no circumstances whatever are we to lose sight of the general system.

There may be great debility; in which case Tonics will be proper: or there may exist considerable febrile action. When the latter is accompanied with any undue irritability of the nervous system, I would recommend Camphor and Nitre, in the proportion of grs. ℥ of the latter and grs. x. of the former; to be repeated every 4 or 6 hours. — A very valuable local application, and one that should not be neglected, is the flannel roller, or bandage, applied from the foot to the groin. Friction with the camphorated Liniment; *℞. Camph. warm Oil. &c. cloths wrung out of hot vinegar*, and applied to the groin, &c. is highly recommended by Burns. There is an old woman's remedy that is worthy of notice. It consists of a beef's gall steeped in brandy or whiskey, applied two or three times during the day. Friction simply with the hand, or what is better, with the flesh brush. The patient must not be allowed to stand or walk too much; and we should advise the roller or bandage to be continued for a considerable time after the patient considers herself well.

I have yet another remedy to introduce, to which I would invite your particular attention. It is one first applied to the cure of this disease by a Gentleman of this City, whose judgment

and veracity may be relied upon with confidence. I have reference to the Datura Stramonium, used in various forms, as an external application.

"In the early part of the year 1810," says Mr. — "I was applied to by a coloured woman who had a violent swelling in her right foot. Upon inquiry, I found, that five years before she had suffered severely from Phlegmasia Dolens (after child birth) in the thigh, leg and foot of the same side, and that every year at the same season her foot swelled four times as large as the other, and continued so painful for three months, that she was obliged to support it on a cushion. When I saw her, she had been confined about a month. As it was too early in the season to procure the plant, and having the Stramonium ointment, I applied it freely, also keeping the foot warm and well wrapped up in flannel. In about a week's time she was able to stand at the wash tub, and before two weeks had elapsed she wore her shoe and went about as usual. There was no return of the disease." — "In the fall of 1810" the Gentleman observes, "I was sent for to see a Lady who suffered with Phlegmasia Dolens, one of the legs, (I think the

right one) I saw was white and very much swelled, and I was informed she was much swelled as high as the hip. After a free use of the Ointment the patient was able to walk a few steps in thirty-six hours, and in about a week was perfectly recovered."

In what precise manner, or by what specific virtues, this powerful medicine acts so as to produce such instantaneous relief, is of minor consequence in a practical point of view, and little would be gained by entering into an elaborate or lengthy theoretical discussion upon its *Modus operandi*. I shall therefore dismiss the subject by saying, that the very respectable source from which the practice originated, and the great success attendant upon it, entitles the article to your particular attention, and to that of medical men generally. ~

